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25 YEAR RE-REVIEW

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Modify two APR-13 RF heads in the second and third range of this receiver.

This indicates changing the RF bandwidth to 3.3 mc plus modify two CV-124 IF units as mates to these RF heads. The excess weight is removed from these units in order to meet our weight specifications on the overall system.

Construct one 100-320 mc preamplifier with a two output multicoupler. This covers the range of the two receivers above.

Construct one RF switching unit to switch the high frequency receivers to opposite antennas from that of the low frequency receivers. This arrangement utilizes the vertical polarization from the high frequency receivers and does not disturb the sensitivity of the existing capabilities.

The pricing information on this is as follows:

Staff Engineer	60 hours @ \$14.33/hr	\$ 859.80	
Senior Engineer	420 hrs. @ \$10.75/hr	4,515.00	
Junior Engineer	210 hrs. @ \$ 7.77/hr	1,631.70	
Engrs. Asst.	200 hrs. @ \$ 4.90/hr	980.00	
		<u>\$7,986.50</u>	\$7,986.50
Material		1,000.00	
Travel		500.00	
G & A @ 18%		270.00	
Profit @ 10%		177.00	
		<u>\$1,947.00</u>	\$1,947.00
	TOTAL COST		\$9,933.50

Period of performance of this contract will be four weeks after delivery of RF heads and CV-124 units for modification. An additional \$3500 will be required if it is necessary to send an engineer into the field for installation of this equipment; however, monies have been allocated for this type of work and are already assigned to the contract for the period 1 July 1959 - 1 January 1960.

System 7

SECRET



Possible modification for inclusion of pulse shaping networks.

One of the problems indicated for the analog production group in COSA-5 is the high frequency content of our pulses coming from the process gear and being inserted into the Ampex video amplifiers. They have indicated that this problem may be alleviated by the insertion of pulse forming networks between the output of our processing equipment and the recorder amplifiers.

In order to determine whether this system would work and to supply the necessary modification for field installation we are proposing that a research program followed by production of the necessary modification units be instigated.

The pricing information on this effort is as follows:

Staff Engineer	40 hours @ \$14.33/hr	\$ 573.20	
Senior Engineer	140 hrs. @ \$10.75/hr	1,505.00	
Junior Engineer	90 hours @ \$ 7.77/hr	699.30	
Engrs. Asst.	300 hrs. @ \$ 4.90/hr	1,470.00	
		<u>\$4,247.50</u>	\$4,247.50
Material		\$3,500.00	
Travel		500.00	
G & A @ 18%		720.00	
Profit @ 10%		472.00	
		<u>\$5,192.00</u>	\$5,192.00
TOTAL COST			<u>\$9,439.50</u>

Period of performance of this portion of the contract will be six weeks after final verbal or written agreement is reached.

The parts cost on this task is large because of the possibility that the crystal ball circuits will have to be replaced in order to facilitate the modification in the space allocated.

SECRET

A SUBSIDIARY OF THE SINGER MANUFACTURING COMPANY

The following is a proposal modifying System 7 in the manner indicated below.

Modify 2 APR-13 RF heads in the second and third range of this receiver.

Build one 50-300 or 100-300 mc preamplifiers with a 2 output multi-coupler.

One RF switching unit to switch high frequency receivers to opposite antennas from that of the low frequency receivers thereby utilizing the vertical polarization.

Investigation of pulse shaping with possible field modification as deemed necessary.

The pricing information on this is as follows:

Staff Engr.	100 hrs @ \$14.33/hr	\$1,433
Sr. Engr.	560 hrs @ \$10.75/hr	6,020
Jr. Engr.	300 hrs @ \$ 7.77/hr	2,331
Engrs. Asst.	500 hrs @ \$ 4.90/hr	2,250
Modifications to operations manual		2,000
Material, travel plus G&A and profit		7,000
Total Cost		\$21,034

Period of performance of this contract will be four weeks after delivery of receivers for modification. An additional \$3500 will be required if it is necessary to send an engineer into the field for field modification of System 7.

This probably should be considered in the financing; however, it may not be necessary, this may be determined when our present field representative returns to HRB.

The travel is priced under the conditions that the contracting organization supply the necessary travel expenses other than per diem.